

XX214-60-06

Surveyor® HD Network Pressurized Camera Domes

Vicon Industries Inc.

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Vicon Industries Inc. does not warrant that the functions contained in this equipment will meet your requirements or that the operation will be entirely error free or perform precisely as described in the documentation. This system has not been designed to be used in life-critical situations and must not be used for this purpose.

www.vicon-security.com

FCC Notice

Note: Complies with Federal Communications Commission Rules & Regulations Part 15, Subpart B for a Class A digital device.

WARNING

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instruction, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class A computing device in accordance with the specification in subpart B of part 15 of the FCC rules, which are designed to provide reasonable protection against such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the equipment with respect to the receiver.
- Relocate the equipment away from the receiver.
- Plug the equipment into a different electrical outlet so that the equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

“Interference Handbook, Bulletin CIB-2”

This booklet is available from the U.S. Government Printing Office, Superintendent of Documents, Mailstop SSOP, Washington, D.C. 20402-9328, ISBN 0-16-045542-1.

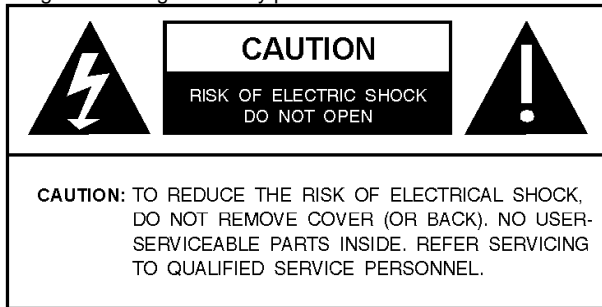
⚠ Warning: *Power must be removed from this unit before removing circuit modules or cables.*

⚠ Caution: *This unit contains circuit cards with integrated circuit devices that can be damaged by static discharge. Take all necessary precautions to prevent static discharge.*

Important Safeguards – Outdoor Use

GRAPHIC SYMBOL EXPLANATION

The lightning bolt symbol alerts the user to the presence of dangerous voltage that may present the risk of electric shock.



The exclamation point symbol alerts the user to the presence of important operating and maintenance instructions.

- 1. Read Instructions** - Read all safety and operating instructions before the product is operated.
- 2. Retain Instructions** - Retain all safety and operating instructions for future reference.
- 3. Heed Warnings** - Pay attention to all product warnings.
- 4. Follow Instructions** - Follow all operating instructions.
- 5. Installation and Wiring** - The equipment shall be installed and wired in accordance with the National Electrical Code, ANSI/NFPA 70.
- 6. Cleaning - (Do not use caustic, abrasive or aerosol cleaners)**
 - a) For units that CAN BE DISCONNECTED from the power source, use a damp cloth for cleaning.
 - b) For units that CANNOT BE DISCONNECTED from the power source, use a damp cloth for cleaning and do not allow moisture or liquids to enter vents.
- 7. Attachments** - Use only UL Listed Vicor recommended attachments to prevent unit damage and personal injury.
- 8. Water and Moisture** - Use only products designed for outdoor environments where they will be exposed to water or moisture.
- 9. Accessories** - Do not place the unit on an unstable surface to avoid falling. Use only UL Listed Vicor recommended mounting accessories.
- 10. Ventilation** - Do not block ventilating slots and openings as they ensure reliable operation. Do not place the unit near a heat source or into an enclosure unless recommended by Vicor.
- 11. Power Sources** - The product should only be operated from the recommended power source. Use only a UL Class 2 indoor/dry or Class 3 outdoor/wet power supply.
- 12. Grounding** - Only products equipped with a 3-prong grounded plug should be inserted into a grounded power outlet. Contact an electrician to replace an obsolete outlet. Do not force a plug into a non-grounded outlet.
- 13. Power Cord Protection** - Power supply cords should not be routed in trafficked areas or in tight spaces where they will be pinched or used to bear weight. Allow some slack in the cord where it enters the unit.
- 14. Outdoor Cable Grounding** - Use only grounded outdoor cables to protect against voltage surges and static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70-1984,

provides information on proper grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors and the requirements of grounding electrodes.

- 15. Lightning** - Disconnect the product from its power source and cable system when possible to prevent damage due to lightning and power-line surges.
- 16. Power Lines** - Do not locate outside cables over power or utility lines where they can fall and make direct contact. Contact with power lines can be fatal.
- 17. Overloading** - Do not overload wall outlets and extension cords to prevent risk of fire and electric shock.
- 18. Object and Liquid Entry** - Never probe through, or spill liquid into, enclosure openings to prevent risk of fire or electric shock.
- 19. Servicing** - Refer all servicing to qualified service personnel.
- 20. Damage Requiring Service** - Obtain service when:
 - a) The power-supply cord or plug is damaged.
 - b) Objects have fallen or liquid has been spilled into the product.
 - c) The product is not designed for outdoor use and has been exposed to water or moisture.
 - d) The product does not operate per the operating instructions. Perform Vicor recommended adjustments, modifications and troubleshooting only to avoid unit damage and personal injury.
 - e) The product has been dropped.
 - f) The product shows a significant change in performance.
- 21. Replacement Parts** - Use only Vicor specified replacement parts or an approved equivalent to prevent unit damage and injury.
- 22. Safety Check** - Request safety checks to be performed following repair or maintenance to verify proper operation.
- 23. ESD Precaution** - Take all normal electrostatic discharge precautions to avoid component damage during installation and operation.
- 24. For 230 VAC Devices Only** - When the disconnect device is not incorporated in the equipment or when the plug on the power supply is intended to serve as the disconnect device, follow the guidelines below:
 - a) For permanently connected 230 VAC units, a readily accessible disconnect device must be incorporated into the site wiring.
 - b) For 230 VAC units with a plug, the outlet must be installed near the unit and be easily accessible.
- 25. Lithium Batteries Only:**

WARNING

Fire and burn hazard. Do not recharge, disassemble, heat above 212°F or incinerate. Keep battery out of reach of children and in original package until ready to use. Dispose of used batteries promptly.

Risk of explosion if battery is replaced by incorrect type. Dispose of used batteries according to the instructions.

Chapter 1

Introduction

1

This chapter provides general information about the Surveyor® HD and Surveyor SD Pressurized Network Dome. Refer to the end of this chapter for the organization of the rest of this manual.

The chapter consists of the following topics:

Topic	Page
General Information	1-2
Model Tables	1-3
Organization of this Manual	1-4

General Information

The information in this manual covers the installation and operation of the Surveyor HD and Surveyor SD (Surveyor HD/SD) Network Pressurized Dome.

Note

Read all instructions before beginning any installation.

The Pressurized Surveyor HD/SD offers a rugged, pressurized and IP67 rated enclosure for the Surveyor HD Network camera dome.

The Pressurized Surveyor HD/SD provides network video transmission using high-profile H.264 or M-JPEG compression. The dome supports ONVIF open architecture connectivity to enable integration into third party Video Management Systems (VMS), including Vicon's ViconNet.

The Surveyor HD/SD is designed for easy installation and serviceability. The entire drive assembly simply snaps into the housing. When removed, the mechanism retains all programmed functions in its on-board memory. The customer interface board snaps down for easy access. A clear polycarbonate lower dome is included. Additionally, two fiber versions, multi-mode and single-mode, and a version for NTCIP are available.

The Surveyor HD/SD includes a high-definition 1.3 megapixel day/night camera with wide dynamic range (WDR), digital noise reduction (DNR/FNR). See Technical Information for camera features. Camera image settings are configured via a user-friendly web browser interface.

For programming, refer to the most recent version of Surveyor HD/SD Programming Manual XX214-40. The Pressurized Surveyor HD/SD Pressurized Network Dome is compatible with the SVFT-PR-WMA Wall Mount, and SVFT-PR-P Pipe Adapter.

Surveyor HD/SD meets requirements for an FCC Class A computing device and is UL and CE compliant. Surveyor HD/SD complies with the fire code of certain local municipalities. The fire code for any given municipality should be verified for Surveyor HD's compliance at the installation site.

The electronic components within the Pressurized Surveyor HD are sensitive to damage from ESD (Electro-Static Discharge). Appropriate precautions and proper use of a ground strap should be observed at all times when handling the unit or its subassemblies.

Table 1: Models and Descriptions

Model Number	Environment	Resolution	Mount Type	Optical Zoom/ Digital Zoom	Lower Dome Type
SN130P	Outdoor/ Pressurized	1.3 megapixel	Pendant	30X	Clear
SN220P-L	Outdoor/ Pressurized	2 megapixel	Pendant	20X	Clear

**Add a –FM to the model number for a multi-mode fiber version and a –FS to the model number for a single mode fiber model.*

Table 2: Power Table

Model Number	Power (W)	Current Rating (A) (see note)
SN130P, SN130P-FM, SN130P-FS	70	2.2 (1)
SN220P, SN220P-FM, SN220P-FS	70	2.2 (1)

(1) – Max. current at high line

Organization of this Manual

Chapter	Description
1	Introduction: Provides general information about the Surveyor HD/SD Pressurized Network Dome
2	Installation: Describes how to install the Surveyor HD/SD Pressurized Network Dome and wiring instructions
3	Configuration and Operation: Describes how to, configure and operate the Surveyor HD/SD Pressurized Network Dome
4	Maintenance and Reference: Describes basic system maintenance, reference information, shipping instructions and technical specifications for the camera dome.

Chapter 2

Installation



This chapter provides installation information for the Surveyor HD/SD Pressurized Network Dome.

The chapter consists of the following topics:

Topic	Page
Installation.....	2-2
Quick Installation	2-6
Detailed Installation	2-7
Uninstalling	2-28

Installation

Caution

This unit should only be installed by a qualified technician using common hand tools and approved materials and wiring methods in accordance with the National Electrical Code ANSI/NFPA 70, state and local wiring codes. All interconnecting equipment or accessories must be UL Listed. Any mention in this manual of alarm inputs/outputs have not been evaluated by UL to be used for burglar alarm functionality.

How to Use this Manual

This manual was designed to provide the best overall instructions for the installation and operation of the Surveyor HD/SD Pressurized Network Dome. The graphics and terminology used in this manual have been carefully selected to enable a clear and distinct understanding of the Pressurized Surveyor HD/SD and its components. This manual has been formatted to present distinct methods of installation for qualified service personnel only.

For a quick overview of product installation, see the Quick Installation subsection of the Installation section. Follow the references provided in the text for items such as wiring tables and lower dome care. Refer to the subsequent sections of Installation, Configuration and Operation for detailed descriptions of any method.

Accessory Kits

The accessory kit includes hardware necessary to assist in assembling the Surveyor HD/SD; the screws and washers are spares for the lower dome:

Description	Quantity
23-pin connector	1
Screw, 1/4-20x 5/8 hex head, stainless steel	4
Washer, lock 1.4 in., stainless steel	4
Screw, captive	2

Optionally, a 23-pin prefabricated cable assembly may be purchased separately for ease of wiring.

Unpacking

All Vicon equipment is tested and inspected before leaving the factory. It is the carrier's responsibility to provide suitable delivery.

Inspect the cartons upon delivery and, if damage is present, make detailed notes on the carrier's bill. Then, obtain the carrier agent's signature and file a damage claim as soon as possible.

Open the cartons and inspect the equipment for damage. Save the cartons and packing material. If damage is present, contact the carrier and file a damage claim immediately. If the equipment must be returned for repair, follow the instructions in the Shipping Information section of this manual.

Remove the Accessory Kit and the unit from the box. Open the Accessory Kit and verify the hardware contained in the kit against the preceding table.

Components

The Surveyor HD/SD Pressurized Housing is comprised of a housing, a camera drive and a trim ring/lower dome assembly. This assembly is the heart of the prepackaged pressurized housing version of the Surveyor HD Camera Dome. With the addition of a mount, the pressurized housing can be equipped for indoor or outdoor wall mount or pipe mounting.

Note

By default, when the pressure in the housing dips below 1/2 psig an On Screen Display message appears stating “Low Pressure Warning.” Alternatively, this alarm warning may be sent to the CPU by enabling the alarm in the camera dome’s menu. When this is activated, the On Screen Display message will not appear. Additionally, the unit is preconfigured for sensor titles to display for temperature, relative humidity and pressure. These titles can be disabled in the Titling screen of the Web Browser. Refer to Programming manual XX214-4X for titling and alarm information.

Housing

The housing is a combination cast aluminum frame and molded polyethylene plastic UV-resistant weather-proof shell. It is used as the mounting frame for the camera drive that mounts to the two (2) tabs on the inside of the housing. The interior is environmentally controlled using a processor controlled heater/fan assembly. A safety cord and clip are provided on the inside to connect the camera drive latch during installation. The lower side of the housing is equipped with a fill valve (Schraeder type); the top has a pressure switch and a pressure relief valve. In addition, a 23-pin female, pressure-rated connector is installed at the top for signal connection. An RJ-45 connector is provided for video/data transmission. There is also a rectangular shaped flange surface with a four-hole bolt pattern, covered with gasket material that is used to attach a pipe or wall mount. The inside of the housing is factory-prepared for the installation of the camera drive mechanism. A customer interface board, that can be unlatched or removed for easy access, is installed in the top of the housing.

Camera Drive

The camera drive is comprised of an integral camera, pan-and-tilt drive and CPU. It is designed for easy “snap-in” installation into the enclosure or housing. The camera drive quickly and accurately positions the camera in 360° of pan angle and 95° of tilt angle. An additional thermostatically-controlled heater is provided for temperature control.

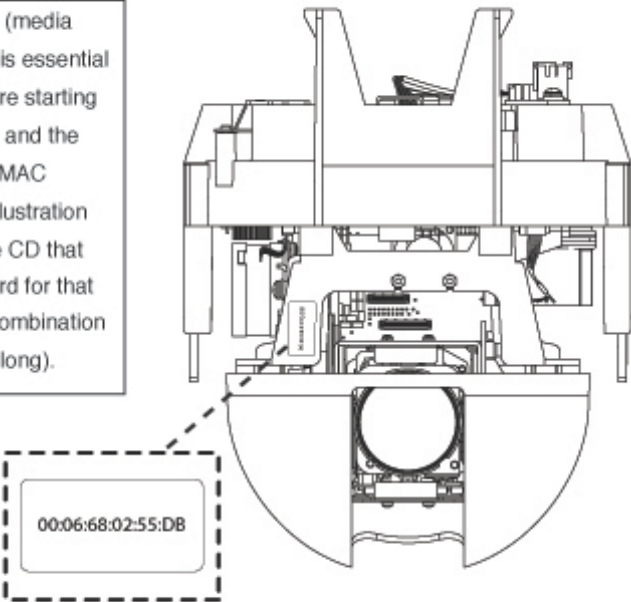
Trim Ring/Lower Dome

The trim ring/lower dome is an assembly comprised of a 6.0-inch (152 mm) diameter clear polycarbonate plastic shell and a cast aluminum/zinc color coordinated trim ring. It contains a radial neoprene gland seal that compresses and provides a pressure seal when the trim ring is attached to the housing. The trim ring/lower dome assembly is attached using eight (8) captive screws that require a torque wrench. It is also equipped with a safety latch that is used to attach the housing’s safety cord. Refer to the Maintenance Section of this manual for instructions on handling and care of this lower dome.

MAC Address

IMPORTANT NOTE!

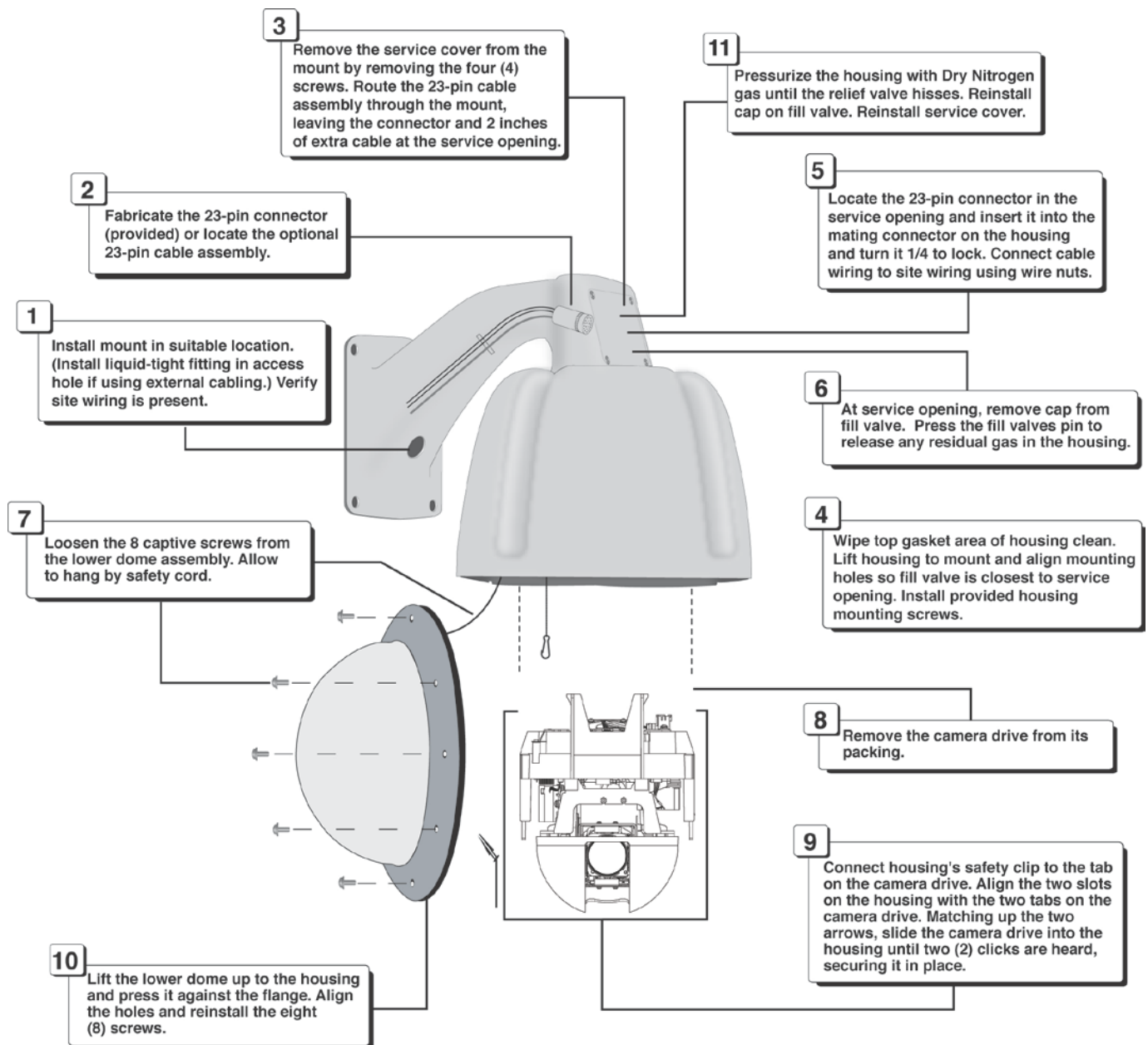
Each IP camera board has a unique MAC (media access control) address. This information is essential in the camera configuration process. Before starting installation, make a record of this address and the location where the dome is installed. The MAC address label is located as shown in the illustration below. There will also be a sticker with the CD that will include the MAC address and password for that specific camera (the password can be a combination of numbers and letters up to 8 characters long).



Make all entries to the log below and retain for future reference

MAC Address	Password	Camera Location
Example: 00-06-68-19-00-79	4765D274	first floor- lobby doors

Quick Installation

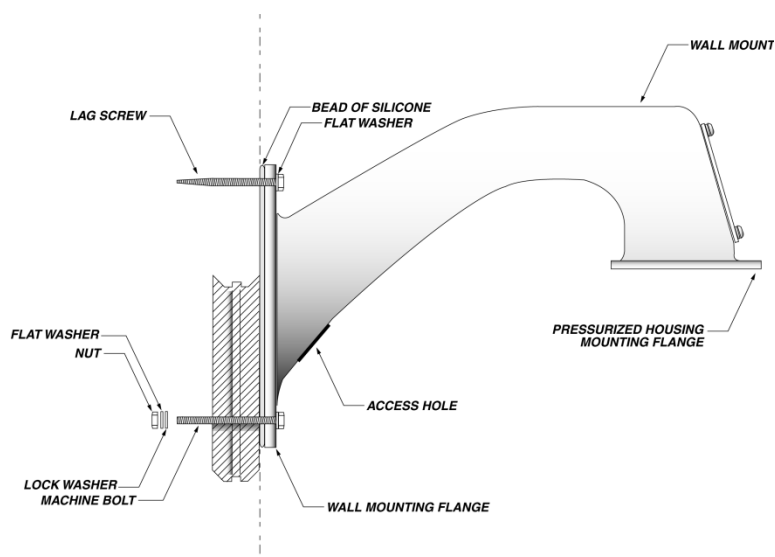


Detailed Installation

Installation is a simple process. Choose the installation type based on the mounting configuration. All mounting hardware (except for actual wall screws and pipe) is provided. When unpacking, locate the provided accessory kit containing a discrete 23-pin connector with crimp pins. If ordered, the optional prefabricated 23-pin cable assembly can be used. Use the applicable sub-section to install the correct connector type included.

Wall Mount Method

Use this method to install, wire and configure a unit with a Vicon wall mount. Refer to the Figure below as required.



Installing the Wall Mount

1. Select a suitable mounting location and verify there is sufficient cable to reach the end of the wall mount.

Caution

Mount only to vertical structures with sufficient strength to support the mount and unit and as vertically level as possible.

2. Mark and drill mounting holes in the surface using the wall mount flange as a template. Drill through-holes for bolts or pilot holes for lag screws.

Note

Verify there are no obstacles behind the surface before drilling.

3. Place a bead of silicone sealant around the wall mount mounting flange, press it to the surface and line up the flange holes with drilled holes. Install the appropriate 3/8 in. (9.5 mm) stainless steel hardware and fasten snugly.
4. Place a bead of sealant around the flange to wall seam.
5. If routing the cables on the outside of the mount and through its access hole, use the following steps:
 - a. Remove the plastic plug from the mount's access hole.
 - b. Remove the mounting nut from the provided liquid tight fitting.
 - c. Insert the liquid tight fitting into the access hole, install and tighten the nut securely.
 - d. The cables will be routed through a section of standard 0.75 in. (19 mm) conduit pipe later in this procedure.
 - e. Route the conduit pipe from the outside of the mount into, and just through, the liquid tight fitting. Tighten the seal nut to compress the gland around the conduit pipe. Place a bead of sealant around the conduit pipe to gland seam.

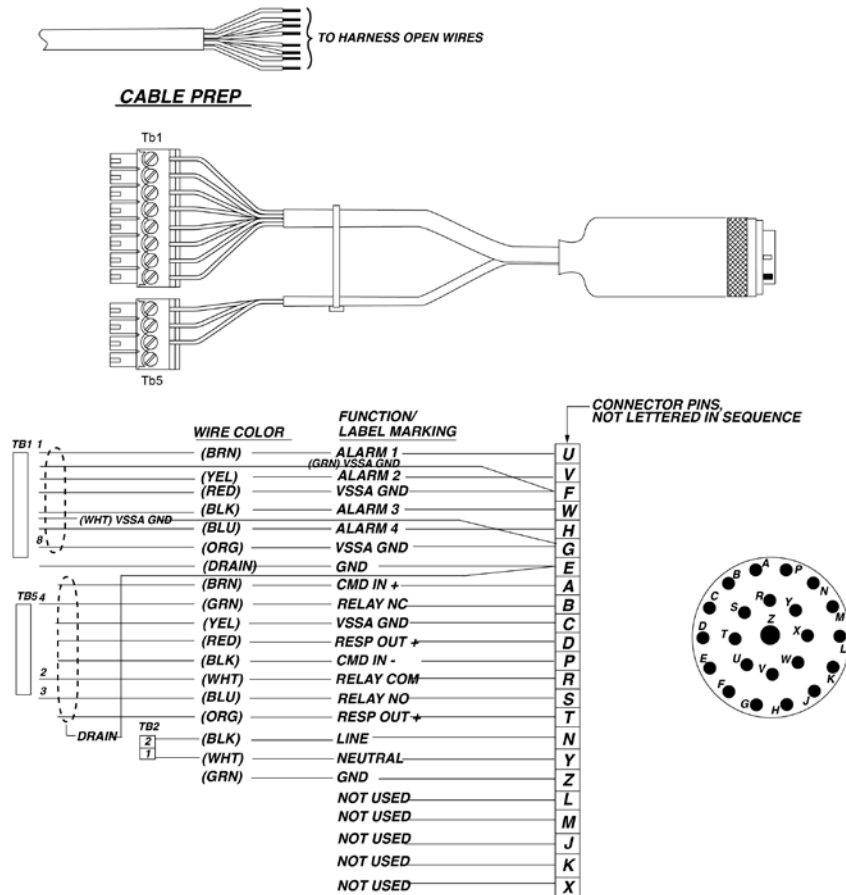
Note

Routing an excessive length of conduit pipe through the liquid tight fitting can cause difficulty in routing the cables through the mount.

Installing the 23-Pin Connector Assembly

(If the prefabricated 23-pin cable assembly is used.)

6. Use the 23-pin cable assembly purchased separately. It should resemble the assembly of Figure below.



- a. Identify the cables required for attaching to the 23-pin connector assembly. There should be a minimum of three (3), power (18 to 32 VAC); pins A, C, D, P, T, L, M, J, K, X and U are not used. There could be optional site cables for alarm inputs or the relay output (jacketed twisted pair).
- b. Verify that each cable has had the jacket stripped back. If not, strip back the jacket and individual wire covering to the dimensions shown in the Figure that follows.
- c. Identify each wire on the site installed cables and label them (A, B, C, D, etc.) in accordance with the labels on the 23-pin cable assembly wires.
- d. Installing the cable assembly is complete. Proceed to Step 8.

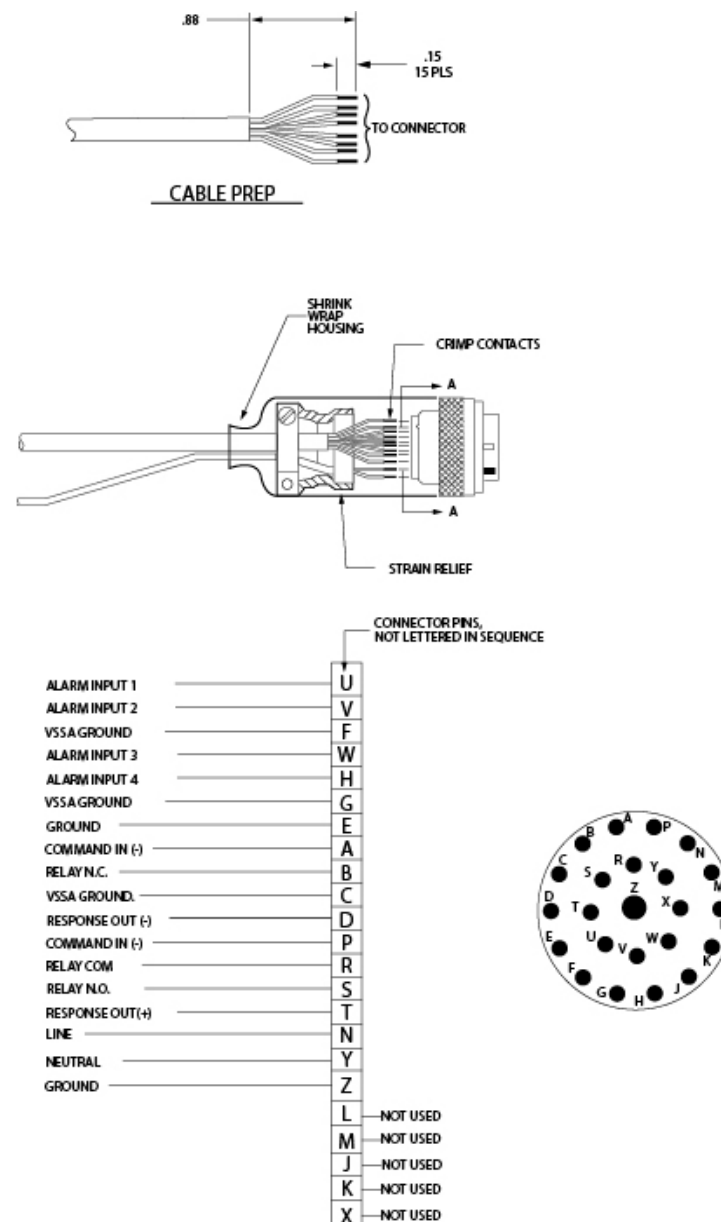
Note

The wire color code may not match the Figure. Verify each wire is labeled with a function. DO NOT remove the labels. Use the wire labels for absolute reference.

Wiring and Assembling the 23-Pin Connector

(Using the discrete 23-pin connector with crimp pins provided.)

7. Assemble the 23-pin connector as shown in Figure below.



- a. Identify the cables required for attaching to the 23-pin connector. There should be a minimum of three (3), power (18 to 32 VAC); pins A, C, D, P, T, L, M, J, K, X and U are not used. There could be optional cables for alarm inputs or the relay output (jacketed twisted pair).
- b. Route all cables through the provided 2 in. (51 mm) length of shrink wrap tubing and push the tubing a few feet down the cable bundle.
- c. Route all cables through the provided connector strain relief fitting and push the connector near the shrink wrap tubing.
- d. Prepare each cable by stripping back the jacket and individual wire covering to the dimensions shown in preceding Figure.
- e. Identify each wire on the site installed cables and label them (A, B, C, D....etc.) in accordance with the labels on the 23-pin connector assembly wires.
- f. Attach a crimp connector to each wire and fasten with crimp tool number M22520/1-01 and turret number M22520/1-02 manufactured by Astro Tool Company or equivalent.

Note

Use the provided large crimp connector for the Ground connection in the Control (RS-422/485) cable.

Note

The wire color code may not match the Figure. Verify each wire is labeled with a function. DO NOT remove the labels. Use the wire labels for absolute reference.

- g. Insert each labeled crimp connector into its respective labeled 23-pin connector position (A, B, C, D, etc.). Verify that each is firmly seated.
- h. Pull the strain relief fitting back up the cable and screw it firmly into the base of the 23-pin connector assembly.
- i. Gather all the cables at the other end of the strain relief fitting into a bundle and tighten the two (2) strain relief fitting screws until the cables are snugly captured.
- j. Pull the shrink wrap tubing back up the cable and push it over the strain relief fitting until it meets the base of the 23-pin connector.
- k. Using a heat gun or other directional heat source, heat the shrink wrap tubing until it shrinks over the 23-pin connector assembly and cables.

- I. Identify each wire on the site installed cables and label it (A, B, C, D, etc.) in accordance with the labels on the 23-pin connector assembly wires. Assembling the connector is complete.

Caution

Overheating the shrink wrap tubing can result in damage to the tubing and the entire 23-pin connector assembly.

8. Remove the service cover from the front of the wall mount by removing the four (4) captive screws.
9. Route the 23-pin connector assembly through the service cover and out the back of the wall mount. Leave the 23-pin connector assembly and an excess of about 2 in. (51 mm) of cable at the service opening.
10. Inspect the top of the housing assembly and verify that there is no debris on the gasket area. If there is, wipe this surface clean with a cloth.
11. Lift the top of the housing assembly up to the wall mount's pressurized housing mounting flange. Align the two (2) sets of four (4) mounting holes so that the relief valve is located closest to the service opening (slightly off to the right side, facing forward). Press firmly.

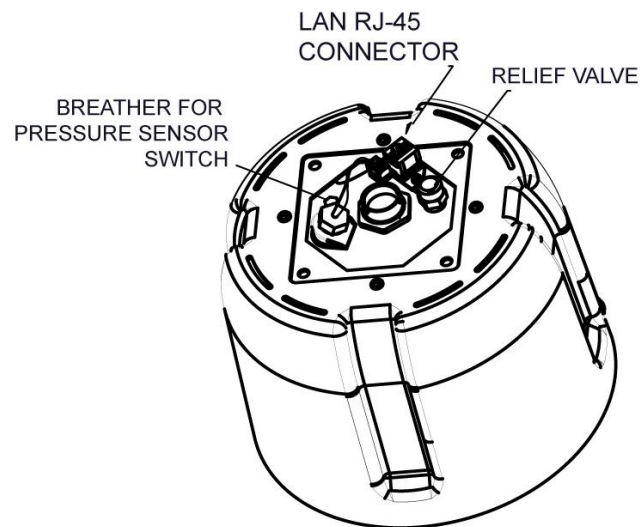
Note

Failure to correctly orient the Housing can cause difficulty in future servicing.

12. Insert the four (4) provided ¼-20 x 5/8 in. (16 mm) long hex head screws through the provided ¼ in. (6 mm) lockwashers and into the mounting holes. Tighten all screws securely with a 5/8 in. (16 mm) socket wrench. Carefully release the housing assembly and verify that the mount can support the weight load.
13. With the housing assembly attached to the wall mount, locate the 23-pin connector assembly in the service opening.
14. Insert the 23-pin connector assembly into the mating 23-pin connector on the top of the housing assembly. Turn it until it drops down into the keyed slot and twist it clockwise ¼ turn to lock it.
15. Connect the previously labeled site wiring to their corresponding cable assembly labeled wires using standard wiring practices such as wire nuts. If using conduit, route all cables through the liquid-tight fitting/conduit, previously installed in the access hole, before connecting to the site wiring.
16. At the lower side, remove the cap from the fill valve. Using a small-tipped instrument, press the internal pin down to release any residual gas from the housing.
17. Loosen the eight (8) captive screws from the trim ring/lower dome assembly and lower it. Allow the lower dome to hang from its safety cord during the remaining assembly.

Housing Connections

All the necessary connections are provided at the top of the housing, including the 23-pin connector and connectors for IP video/data transmission. Refer to the figure below.



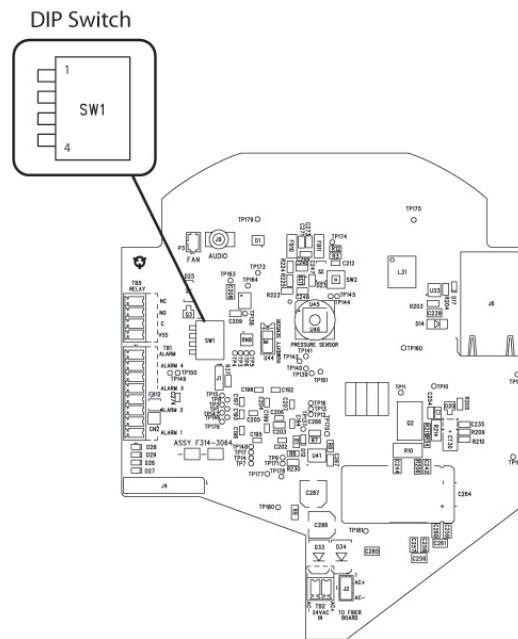
Preparing the Camera Drive

Open the box containing the camera drive assembly and remove it.

Setting the DIP Switches

There are two DIP switches that must be set on the pressurized Surveyor HD. One is on the Communications Interface (CI) board and one on the Main board.

SW1 4-position DIP switch is on the Communication Interface (CI) board. For SW1 position 1, the default is ON, which means there are humidity and pressure sensors; the OFF position is when the pole is UP. The other positions have no function at this time and should be set to OFF.



DIP Switch Location on CI Board

Caution

Changing the positions on the DIP switch on the Main board should only be done by a qualified person. Position 1 is used only if it is necessary to force the unit into default setup if network or system connections are lost. Be sure to reset this switch back to the OFF position before the next power up to avoid a constant return to defaults, resulting in not being able to enter the camera's IP to use the Web Browser. The camera dome is shipped with a default static IP of 1.1.1.2.

The Main board has an 8-position DIP switch SW1. The settings for the positions of this DIP Switch are:

Position 1 - Set Network Defaults. OFF = Default Position, do not set network defaults; ON = Set network defaults; must be set OFF after reboot and before next power up.

Position 2 – For factory use only. Set to ON for SD version only; set to OFF for all other versions. DO NOT CHANGE.

Position 3 – For factory use only. OFF is Default.

Position 4 - Unused (set to OFF)

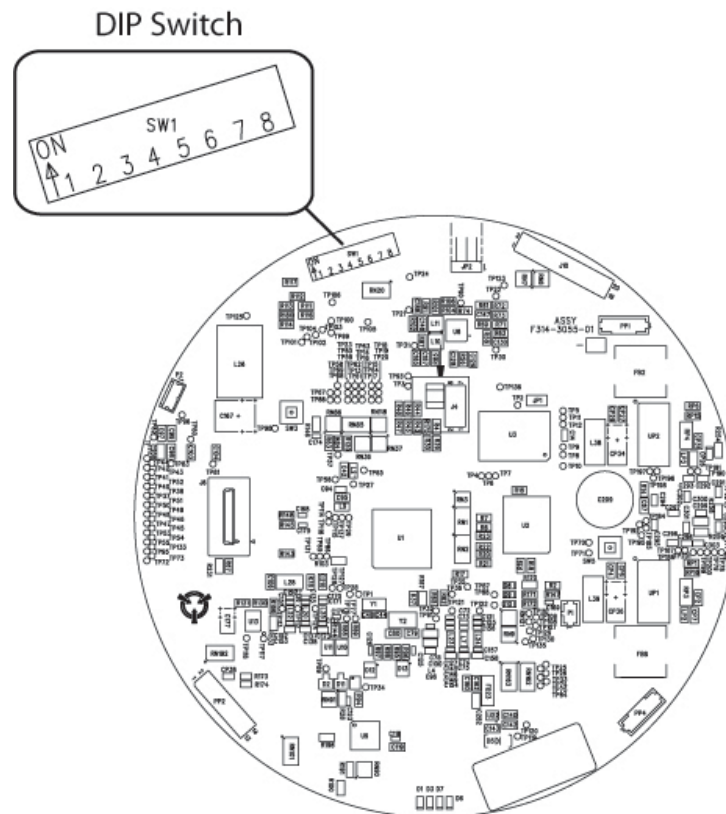
Position 5 - Unused (set to OFF)

Position 6 – Set NTCIP. OFF = Default Position, NTCIP Enabled. ON = NTCIP disabled.

Position 7 – Set password. OFF = Default Position (default password is **password** or **1234**). ON = Set new password; must be set OFF after reboot and before next power up.

Position 8 – System Mode. OFF = Default Position, ViconNet Mode
ON = ONVIF/NTCIP Mode.

The main board is located underneath the housing. It may be necessary to spin the housing mechanism to see the DIP switch, located near the tilt motor along edge of the board.



DIP Switch Location on Main Board

18. Attach the housing's safety clip to the camera drive's tab. Tilt the camera drive down and orient the two (2) slots on the housing with the two (2) tabs on the drive and raise it until two distinct clicks are heard. The housing is now securely installed.
19. Verify that the O-ring in the groove of the trim ring assembly is properly seated, free of debris and has a light coat of vacuum grease. If not, seat the O-ring in the groove, remove any debris and rub additional vacuum grease on it.
20. Attach the trim ring lanyard to the trim ring assembly and mate it to the housing by aligning the housing holes with the trim ring/lower dome

holes. Install the eight (8) screws and tighten only with a torque wrench set for 15-in. lb (170-N cm) of force. Use an alternating (star) pattern to tighten all the screws.

Pressurizing the Housing Assembly

Refer to Figure below as needed.

21. Reattach the previously removed service cover to the service opening using the four (4) captive screws.
22. Using a regulated source of dry Nitrogen gas with the proper Schraeder type fill fitting, as shown in Figure 5, regulate the gas pressure to 10.0 psi (0.68 atm or bars).
23. Attach the fill fitting to the housing assembly's fill valve located at the lower side of the housing and pressurize the housing assembly. When the relief valve opens (gas will hiss from the top of the relief valve), allow this to purge for a minimum of 5 minutes to assure that all the enclosed air is replaced by nitrogen; then remove the fill fitting. The relief valve is rated at 5 psi (0.34 atm or bars). Monitor the actual pressure for the next hour. If, in one hour the pressure has not dropped below 4.5 psi (0.31 atm or bars), it is assumed that the housing assembly is sealed and the relief valve is seating properly.
24. Reinstall the cap on the fill valve.

Caution

Pressurizing the housing assembly beyond 10 psi, or with an unregulated gas source, can cause severe injury to personnel and permanent damage to the assembly.

Warning

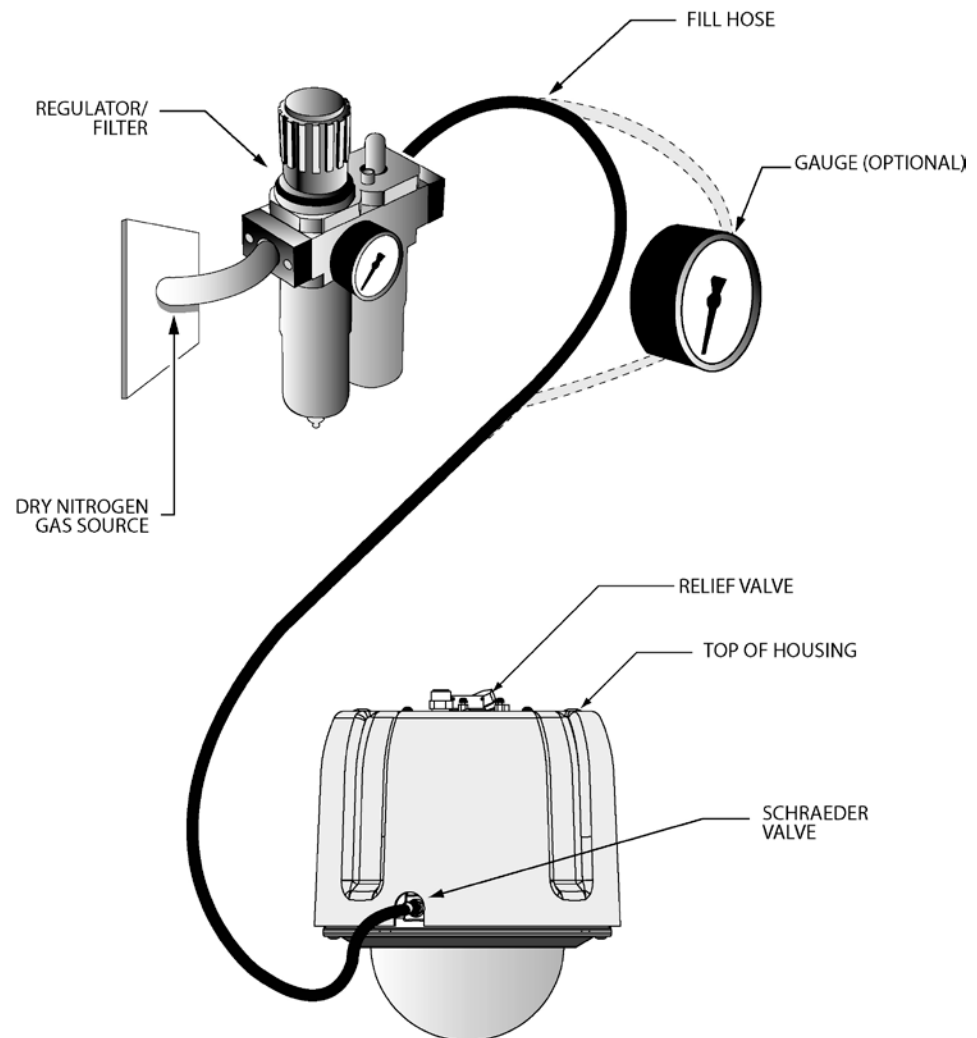
If the dome has been dropped and is cracked, do not pressurize. Replace it with a new dome

Notes

- The housing with mechanism has approximately 490 in.³ of volume.
- Leakage rate is less than 2 psi per year.
- The pressurized function has not been evaluated by UL.

Warning

Do not use any gas type other than dry Nitrogen. The use of Shop Air can introduce moisture into the housing assembly that can damage it over time.



Proceed to the Operation section of this manual.

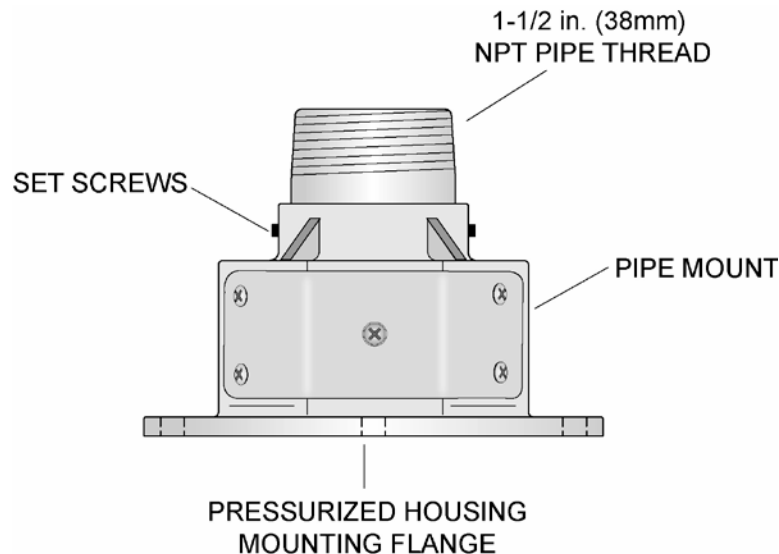
Communication Ports

If using NTCIP protocol, communicate to the Surveyor HD/SD using ports 3000/UDP or 3001/TCP.

If using ONVIF, use port 8000.

Pipe Mount Method

Use this method to install, wire and configure a pipe mounted unit. Refer to Figure below as required.



Installing the Pipe Mount

1. Select a suitable mounting location and verify that the site wiring is present.

Caution

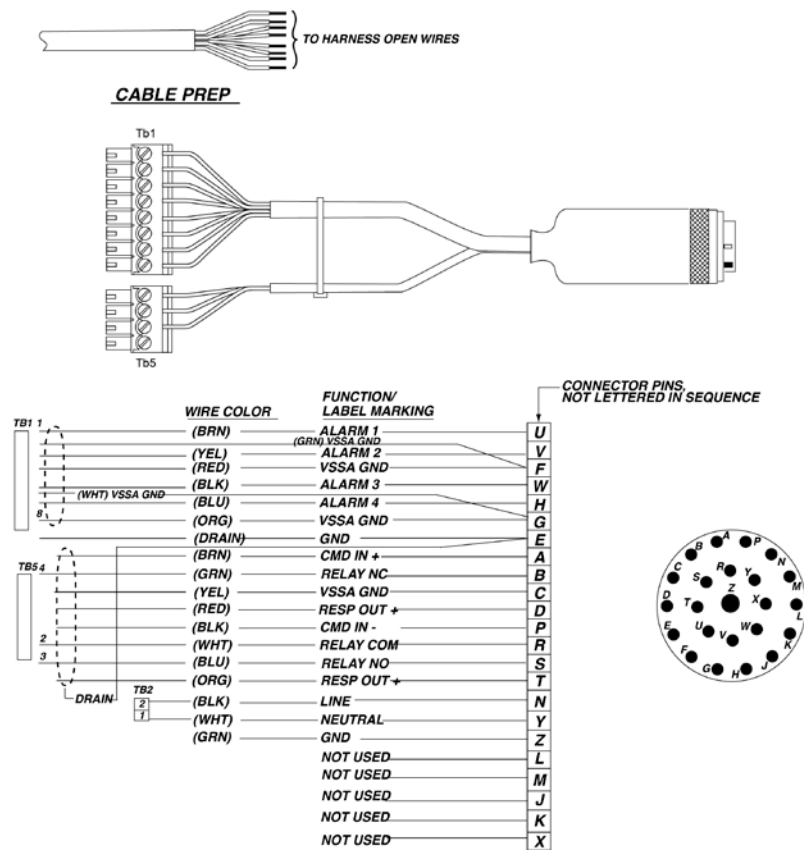
Mount only to installed pipes with sufficient strength to support the mount and unit and as vertically level as possible

2. Install a vertically hung 1-1/2 in. (38 mm) diameter NPT schedule 40 pipe with a coupling on the end.
3. Using the provided sealant stick, apply generously around the threads.
4. Place the pipe mount on the thread and turn it clockwise, by hand, until it fits snugly. Orient the service cover to a convenient position.
5. Tighten the two set screws on the neck of the mount using a hex key if additional security is desired.

Installing the 23-Pin Connector Assembly

(If the prefabricated 23-pin cable assembly is used.)

6. Use the 23-pin cable assembly purchased separately. It should resemble the assembly of Figure below.



- a. Identify the cables required for attaching to the 23-pin connector assembly. There should be a minimum of three (3), power (18 to 32 VAC); pins A, C, D, P, T, L, M, J, K, X and U are not used. There could be optional site cables for alarm inputs or the relay output (jacketed twisted pair).
- b. Verify that each cable has had the jacket stripped back. If not, strip back the jacket and individual wire covering to the dimensions shown in the Figure that follows.
- c. Identify each wire on the site installed cables and label them (A, B, C, D, etc.) in accordance with the labels on the 23-pin cable assembly wires.
- d. Installing the cable assembly is complete. Proceed to Step 8.

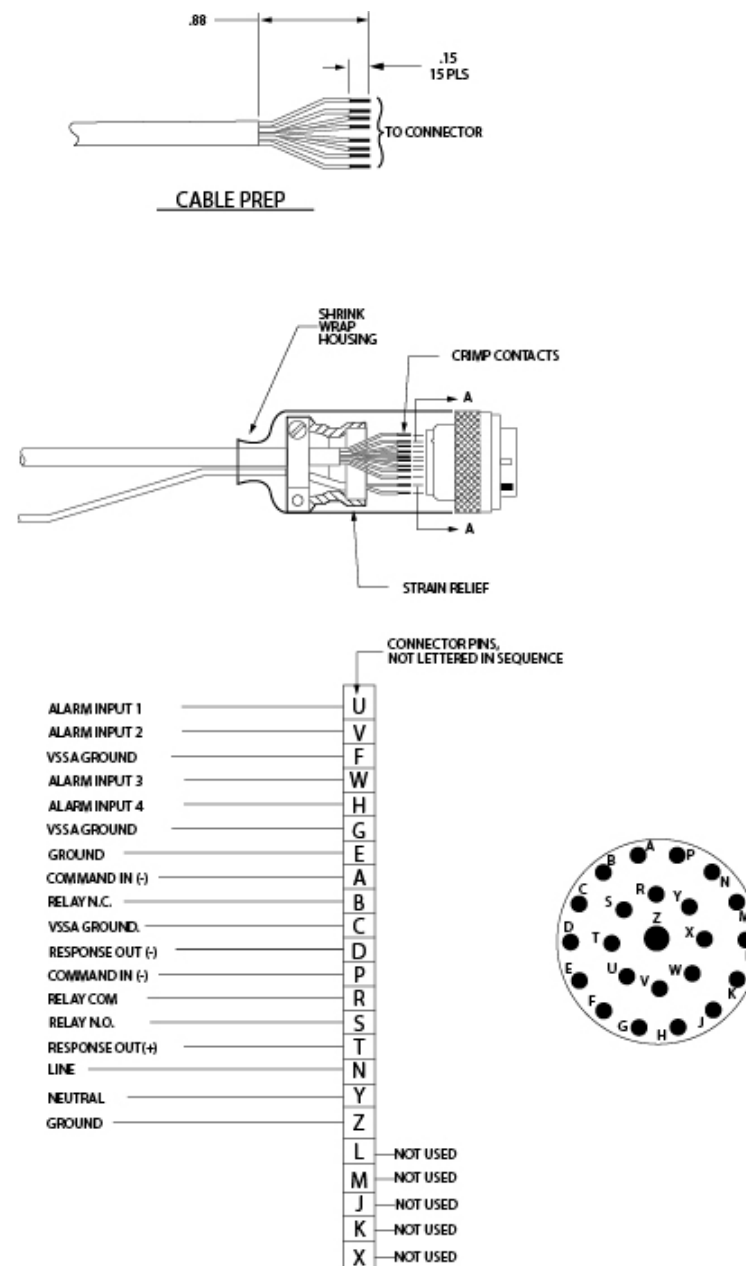
Note

The wire color code may not match the Figure. Verify each wire is labeled with a function. DO NOT remove the labels. Use the wire labels for absolute reference.

Wiring and Assembling the 23-Pin Connector

(Using the discrete 23-pin connector with crimp pins provided.)

7. Assemble the 23-pin connector as shown in Figure below.



- a. Identify the cables required for attaching to the 23-pin connector. There should be a minimum of three (3), power (18 to 32 VAC); pins A, C, D, P, T, L, M, J, K, X and U are not used. There could be optional cables for alarm inputs or the relay output (jacketed twisted pair).
- b. Route all cables through the provided 2 in. (51 mm) length of shrink wrap tubing and push the tubing a few feet down the cable bundle.
- c. Route all cables through the provided connector strain relief fitting and push the connector near the shrink wrap tubing.
- d. Prepare each cable by stripping back the jacket and individual wire covering to the dimensions shown in preceding Figure.
- e. Identify each wire on the site installed cables and label them (A, B, C, D....etc.) in accordance with the labels on the 23-pin connector assembly wires.
- f. Attach a crimp connector to each wire and fasten with crimp tool number M22520/1-01 and turret number M22520/1-02 manufactured by Astro Tool Company or equivalent.

Note

Use the provided large crimp connector for the Ground connection in the Control (RS-422/485) cable.

Note

The wire color code may not match the Figure. Verify each wire is labeled with a function. DO NOT remove the labels. Use the wire labels for absolute reference.

- g. Insert each labeled crimp connector into its respective labeled 23-pin connector position (A, B, C, D, etc.). Verify that each is firmly seated.
- h. Pull the strain relief fitting back up the cable and screw it firmly into the base of the 23-pin connector assembly.
- i. Gather all the cables at the other end of the strain relief fitting into a bundle and tighten the two (2) strain relief fitting screws until the cables are snugly captured.
- j. Pull the shrink wrap tubing back up the cable and push it over the strain relief fitting until it meets the base of the 23-pin connector.
- k. Using a heat gun or other directional heat source, heat the shrink wrap tubing until it shrinks over the 23-pin connector assembly and cables.

- I. Identify each wire on the site installed cables and label it (A, B, C, D, etc.) in accordance with the labels on the 23-pin connector assembly wires. Assembling the connector is complete.

Caution

Overheating the shrink wrap tubing can result in damage to the tubing and the entire 23-pin connector assembly.

8. Remove the service cover from the front of the wall mount by removing the four (4) captive screws.
9. Route the 23-pin connector assembly through the service cover and out the back of the wall mount. Leave the 23-pin connector assembly and an excess of about 2 in. (51 mm) of cable at the service opening.
10. Inspect the top of the housing assembly and verify that there is no debris on the gasket area. If there is, wipe this surface clean with a cloth.
11. Lift the top of the housing assembly up to the wall mount's pressurized housing mounting flange. Align the two (2) sets of four (4) mounting holes so that the relief valve is located closest to the service opening (slightly off to the right side, facing forward). Press firmly.

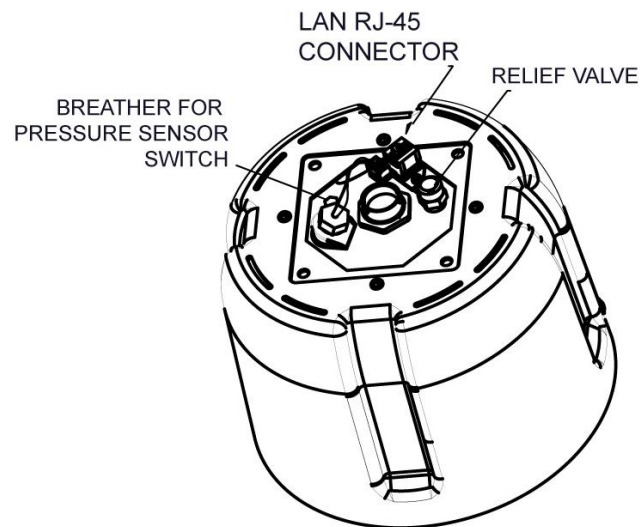
Note

Failure to correctly orient the Housing can cause difficulty in future servicing.

12. Insert the four (4) provided ¼-20 x 5/8 in. (16 mm) long hex head screws through the provided ¼ in. (6 mm) lockwashers and into the mounting holes. Tighten all screws securely with a 5/8 in. (16 mm) socket wrench. Carefully release the housing assembly and verify that the mount can support the weight load.
13. With the housing assembly attached to the wall mount, locate the 23-pin connector assembly in the service opening.
14. Insert the 23-pin connector assembly into the mating 23-pin connector on the top of the housing assembly. Turn it until it drops down into the keyed slot and twist it clockwise ¼ turn to lock it.
15. Connect the previously labeled site wiring to their corresponding cable assembly labeled wires using standard wiring practices such as wire nuts. If using conduit, route all cables through the liquid-tight fitting/conduit, previously installed in the access hole, before connecting to the site wiring.
16. At the lower side, remove the cap from the fill valve. Using a small-tipped instrument, press the internal pin down to release any residual gas from the housing.
17. Loosen the eight (8) captive screws from the trim ring/lower dome assembly and lower it. Allow the lower dome to hang from its safety cord during the remaining assembly.

Housing Connections

All the necessary connections are provided at the top of the housing, including the 23-pin connector and connectors for IP video/data transmission. Refer to the figure below.



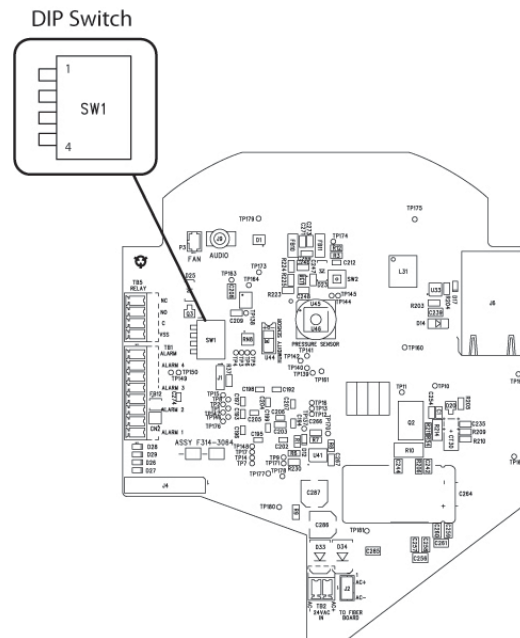
Preparing the Camera Drive

Open the box containing the camera drive assembly and remove it.

Setting the DIP Switches

There are two DIP switches that must be set on the pressurized Surveyor HD. One is on the Communications Interface (CI) board and one on the Main board.

SW1 4-position DIP switch is on the Communication Interface (CI) board. For SW1 position 1, the default is ON, which means there are humidity and pressure sensors; the OFF position is when the pole is UP. The other positions have no relevance at this time.



DIP Switch Location on CI Board

Caution

Changing the positions on the DIP switch on the Main board should only be done by a qualified person. Position 1 is used only if it is necessary to force the unit into default setup if network or system connections are lost. Be sure to reset this switch back to the OFF position before the next power up to avoid a constant return to defaults, resulting in not being able to enter the camera's IP to use the Web Browser. The camera dome is shipped with a default static IP of 1.1.1.2.

The Main board has an 8-position DIP switch SW1. The settings for the positions of this DIP Switch are:

Position 1 - Set Network Address. OFF = Default Position, do not set network defaults. ON = Set k default network address (1.1.1.2); must be reset OFF after reboot and before next power up.

Position 2 – For factory use only. Set to ON for SD version only; set to OFF to for all other versions. DO NOT CHANGE.

Position 3 – For factory use only. OFF is Default.

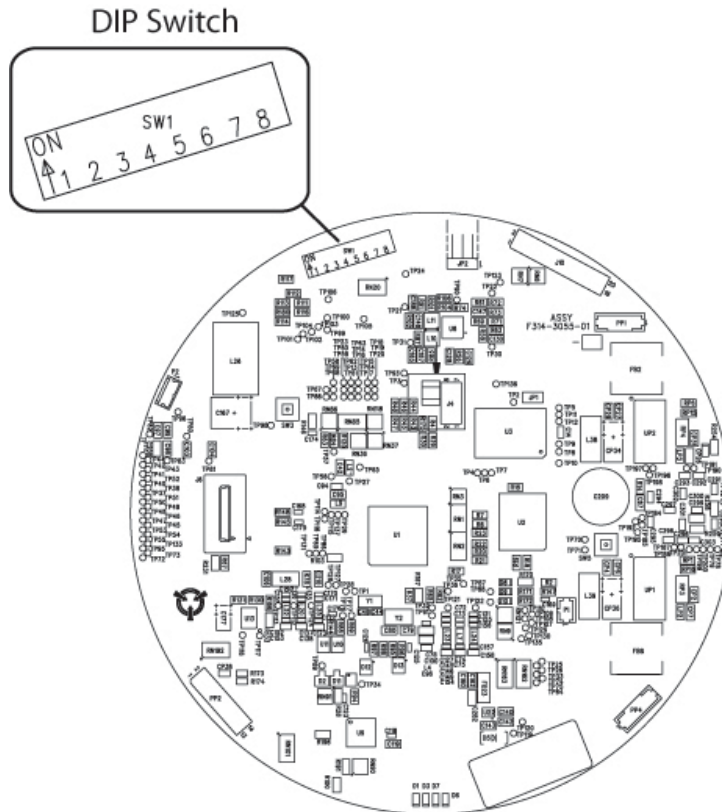
Position 4 - Unused (set to OFF)

Position 5 - Unused (set to OFF)

Position 6 – Set NTCIP. OFF = Default Position, NTCIP Enabled. ON = NTCIP disabled.

Position 7 – Set password. OFF = Default Position. ON = Reset to default password (**password** or **1234**); must be reset to OFF after reboot and before next power up.

Position 8 – System Mode. OFF = Default Position, ViconNet Mode. ON = ONVIF/NTCIP Mode.



DIP Switch Location on Main Board

18. Attach the housing's safety clip to the camera drive's tab. Tilt the camera drive down and orient the two (2) slots on the housing with the two (2) tabs on the drive and raise it until two distinct clicks are heard. The housing is now securely installed.
19. Verify that the O-ring in the groove of the trim ring assembly is properly seated, free of debris and has a light coat of vacuum grease. If not, seat the O-ring in the groove, remove any debris and rub additional vacuum grease on it.
20. Attach the trim ring lanyard to the trim ring assembly and mate it to the housing by aligning the housing holes with the trim ring/lower dome holes. Install the eight (8) screws and tighten only with a torque wrench set for 15-in. lb (170-N cm) of force. Use an alternating (star) pattern to tighten all the screws.

Pressurizing the Housing Assembly

Refer to Figure below as needed.

21. Reattach the previously removed service cover to the service opening using the four (4) captive screws.
22. Using a regulated source of dry Nitrogen gas with the proper Schraeder type fill fitting, as shown in Figure below, regulate the gas pressure to 10.0 psi (0.68 atm or bars).
23. Attach the fill fitting to the housing assembly's fill valve located at the lower side of the housing and pressurize the housing assembly. When the relief valve opens (gas will hiss from the top of the relief valve), allow this to purge for a minimum of 5 minutes to assure that all the enclosed air is replaced by nitrogen; then remove the fill fitting. The relief valve is rated at 5 psi (0.34 atm or bars). Monitor the actual pressure for the next hour. If, in one hour the pressure has not dropped below 4.5 psi (0.31 atm or bars), it is assumed that the housing assembly is sealed and the relief valve is seating properly.
24. Reinstall the cap on the fill valve.

Caution

Pressurizing the housing assembly beyond 10 psi, or with an unregulated gas source, can cause severe injury to personnel and permanent damage to the assembly.

Warning

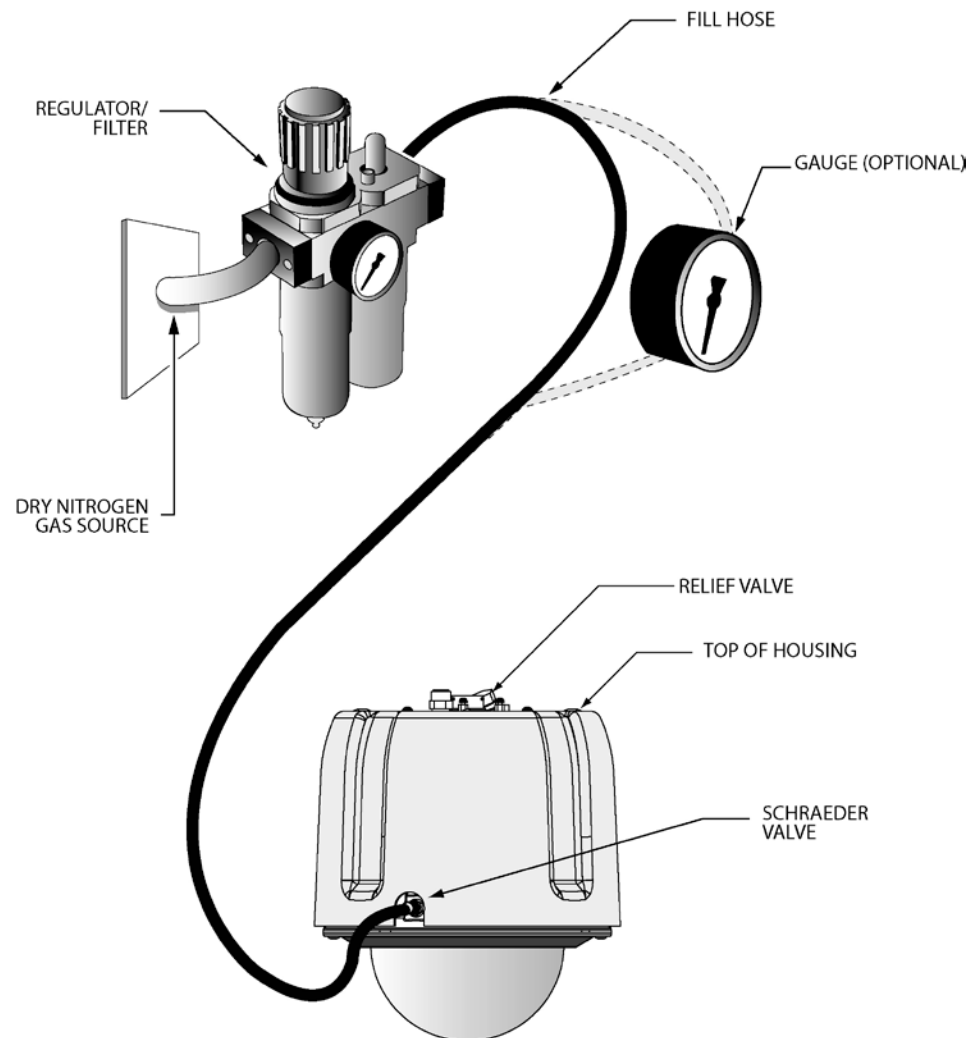
If the dome has been dropped and is cracked, do not pressurize. Replace it with a new dome

Notes

- The housing with mechanism has approximately 490 in.³ of volume.
- Leakage rate is less than 2 psi per year.
- The pressurized function has not been evaluated by UL.

Warning

Do not use any gas type other than dry Nitrogen. The use of Shop Air can introduce moisture into the housing assembly that can damage it over time.



Proceed to the Operation section of this manual.

Communication Ports

If using NTCIP protocol, communicate to the Surveyor HD/SD using ports 3000/UDP or 3001/TCP.

If using ONVIF, use port 8080.

Uninstalling

If it becomes necessary to uninstall to pressurized Surveyor HD, follow the steps below.

Warning

Before starting to uninstall the unit, be sure to release all the pressure through the fill valve on the side of the unit.

1. Unscrew the eight (8) captive screws holding the lower dome assembly in place. The O-ring holds the unit place so it will not drop.
2. Using a flat head screwdriver, work around each of the four (4) slots provided to remove the lower assembly. The lanyard will hold the assembly; unclip the lanyard if you want to completely remove the lower assembly.
3. To reassemble the unit, tighten each screw until snug in a criss-cross pattern (opposite screw) and then tighten each screw securely.

Chapter 3

Configuration and Operation

3

This chapter will describe how to wire, configure and operate the Surveyor HD Pressurized Network Dome.

The chapter consists of the following topics:

Topic	Page
Typical Relay and Alarm Connections	3-2
Configuring and Operating the Pressurized Surveyor HD Network Dome	3-4

Typical Relay and Alarm Connections

Alarm input and relay output type signals are also carried on individually-shielded twisted-pair cable sets. The signals are defined in the following descriptions.

Note

The twisted-pair cable should have a wire gauge (AWG) of 24-16 and a category type of 2, 3, 4, 5 or better.

Alarms 1-4 are electronic CMOS level type inputs that are driven by a dry contact type switch. These signals are connected to terminal block TB1. Each input has two states, open and closed. For example, in the figure below, a door switch can activate an alarm when connected to a Surveyor HD alarm input. As a guideline (under normal conditions), the cable should be 22 AWG for a 1000 foot (305 m) distance. The states correspond to defined TTL designations as follows:

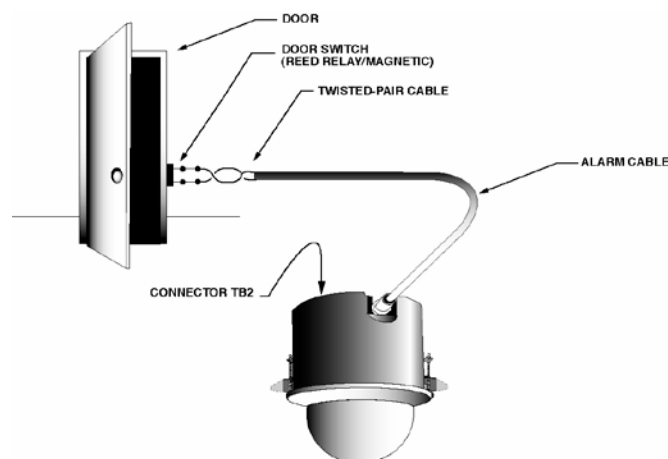
OPEN = HIGH and CLOSED = LOW
where: HIGH = 5 VDC and LOW = < 1 VDC

Since dry contact switches are normally defined in terms of their inactive or “normal” state, the following holds true:

NORMALLY CLOSED (NC) = ACTIVE HIGH (OPEN)
NORMALLY OPEN (NO) = ACTIVE LOW (CLOSED)

Note:

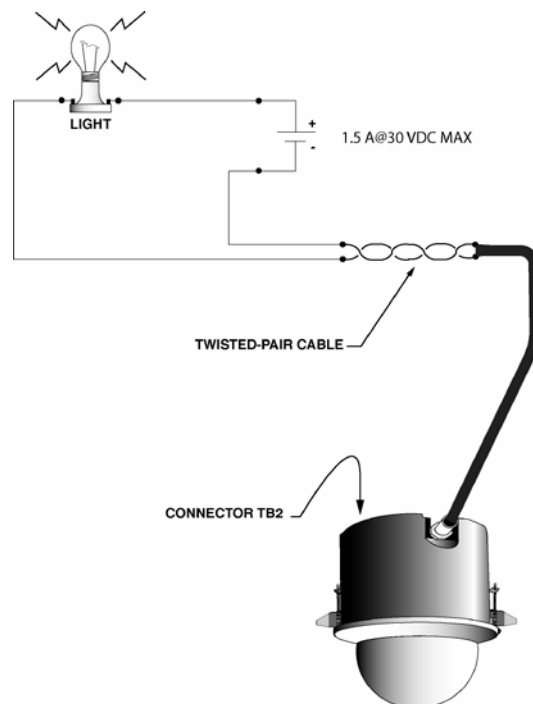
Diagram below shows Surveyor HD In-Ceiling version. This is for illustration purposes only; connections are the same for Pressurized version.



The “active” state can be programmed through the Surveyor HD web browser interface. These signals are connected to terminal block TB1. Alarm signals can be programmed for their status (enabled/disabled), active level definition (high/low), action/reset function (none, preset, aux on, aux off or tour), acknowledgment mode (automatic, momentary or manual) and report status (yes/no).

The relay output is an actual relay output dry contact, which directly drives external devices (1.5 A @30 VDC max). For example, a light can be turned on and off when the relay output is connected to the light circuit. Refer to Figure below. The relay output contact can be programmed for its power-on state definition (on/off) and output type definition (momentary or latching).

There is one relay output dry contact located on terminal block TB5. Connect the circuit to be switched to the connector pins labeled RELAY C (relay common) and RELAY NC or RELAY NO for a normally closed or normally open connection, respectively.



Configuring and Operating the Pressurized Surveyor HD Network Dome

Following the completion of the installation, the pressurized Surveyor HD is setup and operated through a web browser interface. Refer to the Web Browser instruction manual XX214-40 for detailed information on camera configuration.

Chapter 4

Operation, Maintenance and Reference

4

This chapter provides Operation instructions, Maintenance information, cable recommendations and technical specifications for the Surveyor HD Pressurized Network Dome.

The chapter consists of the following topics:

Topic	Page
Operation	4-2
Maintenance	4-3
Shipping Instructions	4-4
Network Cable	4-5
Technical Specifications	4-6
Vicon Standard Equipment Warranty	4-9

Operation

The Pressurized Surveyor HD Camera Dome operates on an Onvif compliant platform that allows it to work with any Onvif compliant Video Management System (VMS), including Vicon's ViconNet.

Refer to the documentation for those operating systems to setup the Surveyor HD. After the camera dome is configured according to the requirements for the specific video management system, it is controlled through the Web Browser. Refer to web browser instruction manual XX214-40.

Maintenance

The Pressurized Surveyor HD requires no scheduled maintenance; however, the lower domes require occasional cleaning. All domes require careful handling and occasional cleaning.

Care and Cleaning of Smoked and Clear Acrylic Domes

1. Always handle the lower dome by the flange and avoid touching the inside surface.
2. If dust or dirt accumulates in the lower dome's interior, remove it with clean, dry pressurized air.
3. If spots, streaks or stains appear on the interior or exterior, they may be removed with an approximate solution of 50% isopropyl alcohol and 50% water using a soft microwave-safe (aluminum free) paper towel. Dry with clean, dry pressurized air.
4. Scratches or surface blemishes on the interior or exterior may be removed with a nonabrasive wax using a nonabrasive cleaning cloth. Either liquid or spray cleaner (wax suitable for fine furniture) is acceptable.

Caution

Excessive rubbing of the lower dome surface can cause permanent scratches that may render the dome unusable.

5. Clean all surfaces with any soft, nonabrasive cleaning cloth and a cleaning agent suitable for acrylic plastic.

Fuse Replacement

The Pressurized Surveyor HD has two resettable 1.35 A, 72 V fuse. Be sure to use a fuse of the same value if it is necessary to replace the fuse.

Shipping Instructions

Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

Vicon Industries Inc.
131 Heartland Boulevard
Edgewood, NY 11717
Phone: 631-952-2288; Toll-Free: 1-800-645-9116; Fax: 631-951-2288

For service or returns from countries in Europe, contact:

Vicon Industries (U.K.) Ltd
Brunel Way
Fareham, PO15 5TX
United Kingdom
Phone: +44 (0)1489/566300; Fax: +44 (0)1489/566322

2. Attach a sheet of paper to the unit with the following information:
 - a. Name and address of the company returning the unit
 - b. Name of the Vicon employee who issued the R.A.
 - c. R. A. number
 - d. Brief description of the installation
 - e. Complete description of the problem and circumstances under which it occurs
 - f. Unit's original date of purchase, if still under warranty
3. Pack the unit carefully. Use the original shipping carton or its equivalent for maximum protection.
4. Mark the R.A. number on the outside of the carton on the shipping label.

Network Cable

Caution

Careful selection of proper cable is essential to obtain the best performance. Vicon assumes no responsibility for poor performance when cables other than the recommended types, or equivalent, are used.

Materials

Use pure copper stranded conductors to obtain a low DC resistance. The preferred insulation and cable jacket is Polyvinyl chloride (PVC). It has better electrical characteristics than Polyethylene and resists flames, sunlight and most solvents, but is more vulnerable to moisture.

Cable Types

The most commonly used cable types are CAT5, CAT5e and CAT6. These category cables are best suited for Ethernet network applications.

Choose a Belden cable type by referring to the characteristics listed below. The Table below should be used as a guideline when cables other than Belden are used. Materials and construction must follow the guidelines above.

CABLE TYPE	WIRE SIZE (AWG)	INSULATION MATERIAL	JACKET MATERIAL	CATEGORY	BANDWIDTH (MHz)	MAXIMUM DISTANCE (ft/m)	NUMBER OF TWISTED PAIRS
Belden 1624P	24	Fluorinated Ethylene Propylene	Low Smoke PVC	5	100	246/75	4
Belden 1583A	24	Polyolefin	PVC	5e	100	328/100	4
Belden 1585A	24	Fluorinated Ethylene Propylene	PVC	5e	100	328/100	4
Belden 7883A	24	Polyolefin	PVC	6	250	328/100	4

Belden Inc. <http://www.belden.com/> (800) 235-3361

Technical Specifications

Network Video Transmission

Compression:	H.264, M-JPEG.
Video Streams:	10 concurrent sessions maximum.
Video Output:	1.3 megapixel version: 1280 x 720 @ 30 fps. 2 megapixel version: 1920 x 1080 @ 30 fps..
Programming Interface:	ONVIF or Vicon API.
Protocols:	IP, HTTP, RTSP/RTP, DNS client, FTP, SMTP, PPPoE, TCP/IP, DHCP, UDP, Multicast, NTP, DDNS, IGMP, ARP, SOAP, WSDL, WS-Discovery.

Electrical

Input Voltage:	18-30 VAC. (Will operate within spec on voltages up to 32 VAC. For voltages between 30-32 VAC, use a Class 3 indoor/dry or outdoor/wet power supply.)
Current:	2.2 A maximum.
Power Consumption:	70 W maximum.
Fuse:	2 resettable 1.35 A, 72 V.
Certifications:	CE; FCC Class A.

Camera and Optics

Image Device:	1/3-inch solid state progressive scan CCD.
Zoom:	1.3 megapixel version: 18X optical. 2.0 megapixel version: 20X optical.
Picture Elements:	1348 (H) x 976 (V), 1.32M total pixels. 2.0 megapixel version: 2096 (H) x 1097 (V); 3.4M total pixels.
Sensitivity:	1.3 megapixel version: Color: 0.18 fc (1.8 lux). B&W: 0.002 fc (0.02 lux) at 50 IRE, f/1.6, 1/4s, IRcf Off. IR cut filter is removable. 2 megapixel version: Color: 0.16 fc (1.6 lux). B&W: 0.004 fc (0.04 lux) at 50 IRE, f/1.6, 1/8s, IRcf Off. IR cut filter is removable.
Synchronization:	Internal.
Gain Control:	Automatic/Manual.

Backlight Compensation:	On/Off, selectable.
Iris Control:	Automatic.
Digital Noise Reduction:	On/Off, selectable.
Wide Dynamic Range:	On/Off, selectable.
Video Focus:	Automatic/Manual (near-far).
White Balance:	Automatic/Manual; Red/Blue gain adjustable.
Shutter Speed:	1.3 megapixel version: Automatic/Manual: 1/4 - 10,000 sec. 2.0 megapixel version: Automatic/Manual: 1/0.75 - 30,000 sec.
Focal Length:	1.3 megapixel version: 4.7 - 84.6 mm. 2.0 megapixel version: 4.7 - 94 mm.
Aperture:	1.3 megapixel version: f/1.6 (wide) - f/2.8 (tele). 2.0 megapixel version: f/1.6 (wide) - f/3.5 (tele).
Angle of View:	1.3 megapixel version: Horizontal: 55.2° wide, 3.2° tele. 2.0 megapixel version: Horizontal: 55.2° wide, 2.9° tele.

Operational

Drive Type:	Electrical motorized pan and tilt with electronic control.
Pan View:	360° continuous.
Tilt View:	-2.5 to 92.5°.
Pan Speed:	400°/sec, max.
Tilt Speed:	150°/sec, max.
Optical Zoom/Focus Speed:	1.8 sec, tele to wide.
Preset Capability:	79 individually programmable.
Preset Solving Speed:	1 second nominal.
Preset Accuracy (Pan and Tilt):	0.1° maximum.
Tour Capabilities:	8 tours available. 32 programmable events per tour. Events may be preset positions with speed control, alarm acknowledge, dwell time control, relay control, call autotours, tour repeat or another tour, save/recall camera status.
Autotour Capabilities:	2 autotours available with 256 pan, tilt and zoom functions per autotour. Programming is done in real time with joystick and push buttons.
Sectoring:	16 maximum, programmable for size and titling. Sectors have the capability to be blanked out.
Alarm Capabilities:	4 alarm inputs, individually programmable. Functional state

	enable/disable. Report state (report on/off). Active state (high/low). Mode (manual, momentary or automatic) with programmable dwell time control. Set and reset action (preset solve, relay on/off, tour, autotour). Alarm titling.
Alarm Output:	1 relay, momentary or latching.
Control Display:	Web browser interface.
Privacy Masks:	16 individual simultaneously on-screen; 80 total. Programmable, zoom-scalable.
Scheduling:	Real-time clock allows scheduling of up to 64 events, including presets, relays, alarms, tours or autotours.
Multi-Language Menu:	English, Spanish, French, Italian and German.
Camera Features:	Motion detection, image freeze during preset solve, image flip (vertical invert), image mirror, reverse video image. Programmable.
Screen Titling Capabilities:	<p>Programmable for camera, preset, sector, relay and alarms.</p> <p>Pressurized version only: aux, pressure, humidity, temperature.</p> <p>Individual type date and time enable/disable; 20 characters maximum.</p> <p>Selectable position.</p> <p>Two text sizes for top 2 lines.</p> <p>Fade capability.</p> <p>Compass/azimuth, 8 compass headings (N, NE, E, SE, S, SW, W, NW).</p>

Mechanical and Environmental

Operating Pressure:	1 - 5 psi (0.07 - 0.34 atm or bars) maximum.
Pressurization:	Schraeder type valve used to fill and drain housing with dry nitrogen gas. Relief valve automatically relieves pressure at 5 - 7 psi (0.34 - 0.48 atm). Leakage <2 psi per year. 0.28 ft ³ (0.008 m ³).
Operating Temperature Range:	-40 to 132° F (-40 to 55° C).
Operating Humidity:	100% relative, condensing.
Storage Temperature Range:	-40 to 150° F (-40 to 65° C).
Storage Humidity Range:	0 to 90% relative, non-condensing.
Compliance:	International Protection (IP) Rating IP67; NEMA TS2-2003 V02.06.

Vicon Standard Equipment Warranty

Vicon Industries Inc. (the "Company") warrants your equipment to be free from defects in material and workmanship under Normal Use from the date of original retail purchase for a period of three years, with the following exceptions:

1. Uninterruptible Power Supplies: Two years from date of original retail purchase.
2. VDR-700 Recorder Series: One year from date of original retail purchase.
3. V5616MUX: One year from date of original retail purchase.
4. Arecont Cameras: One year from date of original retail purchase.
5. FMC series fiber-optic media converters and associated accessories: Lifetime warranty.
6. For PTZ cameras, "Normal Use" excludes prolonged use of lens and pan-and-tilt motors, gear heads, and gears due to continuous use of "autopan" or "tour" modes of operation. Such continuous operation is outside the scope of this warranty.
7. Any product sold as "special" or not listed in Vicon's commercial price list: One year from date of original retail purchase.

Date of retail purchase is the date original end-user takes possession of the equipment, or, at the sole discretion of the Company, the date the equipment first becomes operational by the original end-user.

The sole remedy under this Warranty is that defective equipment be repaired or (at the Company's option) replaced, at Company repair centers, provided the equipment has been authorized for return by the Company, and the return shipment is prepaid in accordance with policy.

The Company will not be obligated to repair or replace equipment showing abuse or damage, or to parts which in the judgment of the Company are not defective, or any equipment which may have been tampered with, altered, misused, or been subject to unauthorized repair.

Software supplied either separately or in hardware is furnished on an "As Is" basis. Vicon does not warrant that such software shall be error (bug) free. Software support via telephone, if provided at no cost, may be discontinued at any time without notice at Vicon's sole discretion. Vicon reserves the right to make changes to its software in any of its products at any time and without notice.

This Warranty is in lieu of all other conditions and warranties express or implied as to the Goods, including any warranty of merchantability or fitness and the remedy specified in this Warranty is in lieu of all other remedies available to the Purchaser.

No one is authorized to assume any liability on behalf of the Company, or impose any obligations on it in connection with the sale of any Goods, other than that which is specified above. In no event will the Company be liable for indirect, special, incidental, consequential, or other damages, whether arising from interrupted equipment operation, loss of data, replacement of equipment or software, costs or repairs undertaken by the Purchaser, or other causes.

This warranty applies to all sales made by the Company or its dealers and shall be governed by the laws of New York State without regard to its conflict of laws principles. This Warranty shall be enforceable against the Company only in the courts located in the State of New York.

The form of this Warranty is effective July 1, 2014.

THE TERMS OF THIS WARRANTY APPLY ONLY TO SALES MADE WHILE THIS WARRANTY IS IN EFFECT. THIS WARRANTY SHALL BE OF NO EFFECT IF AT THE TIME OF SALE A DIFFERENT WARRANTY IS POSTED ON THE COMPANY'S WEBSITE, WWW.VICON-SECURITY.COM. IN THAT EVENT, THE TERMS OF THE POSTED WARRANTY SHALL APPLY EXCLUSIVELY.

Vicon Industries Inc.

For office locations, visit the website:

www.vicon-security.com

